



## SHAPING THE FUTURE ... TOGETHER

### EXECUTIVE SUMMARY

### GUAM AND CNMI MILITARY RELOCATION DRAFT EIS / OEIS VOLUME 7: MITIGATION AND IMPACTS

#### Focus

The Department of Defense (DoD) is required to use an established set of Best Management Practices (BMPs) in addressing mitigation measures for impacts to transportation, utilities and infrastructure, and socioeconomics. Volume 7 of the Draft Environmental Impact Statement (EIS) / Overseas Environmental Impact Statement (OEIS) provides the analysis and summary of the impacts, the cumulative impacts and the secondary effects of the Preferred Alternatives, as well as a comparison of those impacts to the No Action Alternative. The impacts to the following resources are presented: geological and soil resources; water resources; air quality; noise; air space; land and submerged land use; recreational resources; terrestrial biological resources; marine biological resources; cultural resources; visual resources; marine transportation; related actions (utilities and traffic); socioeconomics; hazardous materials and waste; public health and safety; and environmental justice and protection of children.

#### Key Actions

##### ***Provide Funding for Implementation of Mitigation Measures***

The Draft EIS states that “The DoD has limited authority to implement mitigation measures on non-DoD land. Mitigation measures involving expansion or improvement to utilities, roadways, and other public services can be addressed by state and local governments using revenues from an expanded tax base, adjusted utility rates, connection fees, and other service charges. In fact, taxes, rates, fees, and service charges are the tools state and local governments normally use to address increased demand or improvements to public services they provide or control. However, Guam’s unique circumstances and world economic conditions may make it difficult for Guam to address mitigation on non-DoD lands using normal revenue sources; the Navy is committed to working with Guam and the full array of federal executive agencies to identify potential sources of funding to assist Guam in implementing mitigation measures on non-DoD land”.

##### ***Adopt and Develop an Adaptive Management Strategy - A Monitoring Plan***

The adoption of an adaptive management strategy for mitigation in resource areas would require development of a monitoring plan and a cooperative approach between the DoD, GovGuam, U.S. Environmental Protection Agency (USEPA), Guam Environmental Protection Agency (GEPA), Guam Waterworks Authority (GWA), and Guam Power Authority (GPA). The monitoring plan would identify roles, responsibilities, monitoring criteria and data points. The focus of the monitoring plan would be on the resource areas of power, potable water, wastewater, and air quality because they have the greatest potential for significant impact; are sensitive to changes in peak population; and are resources for which the DoD can adjust demands through altering construction contract awards.

The Navy has identified “action points” and “tipping points” that need to be established in the monitoring plan for resources. The tipping point represents an established indicator level that, if exceeded, would result in a significant impact. The action point identifies an early warning level indicator associated with each resource that, once reached, signals the Navy to apply appropriate adaptive management techniques to address potential impacts.

##### ***Improve Current Utility Resources***

The DoD has identified issues with the current systems of power, potable water, wastewater, and air quality and problems that could result due to the military buildup. These include a need for additional drilling of water wells by GWA to meet the capacity requirements. The GWA has indicated that they do not have the financial resources to meet the demands for potable water expected as a result of the buildup. The GWA must formally request through the Navy Region Marianas Utilities Department to transfer excess production capacity from DoD to the GWA. The GWA or developer would be required to install the necessary piping to make the interconnections with DoD water systems. Additionally, increased wastewater flows would result in exceedance of the current permit as well as slightly exceeding the design capacity of the Northern District Wastewater Treatment Plant (NDWWTP). The NDWWTP requires refurbishment to attain its original design capacity. Finally, there are actions that the government may need to take to mitigate air quality issues such as canceling the waiver to allow the use of high sulfur fuels, adding pollution control devices on power turbines, and developing and implementing a Traffic Management Center to monitor traffic flow and congestion.

Volume 7 states that no action and elimination of prospective long-term revenues expected from the preferred alternatives would still leave GovGuam in the difficult financial condition they have faced in recent years. At least for the foreseeable future, this would negatively impact the various service agencies due to budget cuts and would probably represent the most important overall consequence for GovGuam.



## Key Observations

Observation/ Issue	Comment
<b>Funding for Mitigation Measures on Non-DoD Land</b> <ul style="list-style-type: none"> <li>The DoD has limited authority to implement mitigation measures on non-DoD land.</li> <li>Mitigation measures involving expansion or improvement to utilities, roadways, and other public services can be addressed by state and local governments using revenues from an expanded tax base, adjusted utility rates, connection fees, and other service charges.</li> <li>Guam's unique circumstances and world economic conditions may make it difficult for Guam to address mitigation on non-DoD lands.</li> <li>The Navy is committed to working with Guam and the full array of federal executive agencies to identify potential sources of funding to assist Guam in implementing mitigation measures on non-DoD land.</li> </ul>	<p>Awareness by DoD that implementing mitigation measures puts a financial burden on GovGuam to respond to the expansion of utilities, roadways, and other public services.</p>
<b>Impact of No Action Alternative on Government Revenues and Services</b> <ul style="list-style-type: none"> <li>No action and the elimination of prospective long-term revenues expected from the Preferred Alternatives would still leave GovGuam in the difficult financial condition they have faced in recent years.</li> <li>At least for the foreseeable future, this would negatively impact the various service agencies because of budget cuts and would probably represent the most important overall consequence for GovGuam.</li> </ul>	<p>This leads to the conclusion that while in the short term the pressure on the government and public service in general would create an adverse impact, in the long term no action is worse for the government because of the loss of revenue.</p>
<b>Land Acquisition</b> <ul style="list-style-type: none"> <li>Community does not support an increase in federal land on the island and the increase under the Preferred Alternative is considered an adverse impact.</li> </ul>	<p>The number of landowners forced to sell property to the federal government creates a problem. This may be mitigated by long-term lease. However there is still a public relations issue.</p>
<b>Land Use Planning and Zoning Changes Required</b> <ul style="list-style-type: none"> <li>A secondary impact of the Preferred Alternatives would be the need for additional land use planning and zone changes to reflect the increase in federal land area and changes in land use on federally-controlled land.</li> <li>These plans may need to include a buffer of open space outside the perimeter of federally-controlled lands to avoid impacts on civilian land use.</li> <li>GovGuam's Bureau of Statistics and Plans (BSP) and Department of Land Management (DLM) may need to hire more staff and fund additional land use planning documents.</li> </ul>	
<b>Navy to Develop Post-Record of Decision (RoD) Monitoring Plan</b> <ul style="list-style-type: none"> <li>A post-ROD monitoring plan will be developed to ensure additional mitigation is applied to all resource areas.</li> <li>The post-ROD monitoring plan would be developed in cooperation with USEPA, GovGuam, GEPA, GWA, and GPA and other agencies as necessary to identify roles and responsibilities and determine what monitoring criteria and data points will act as indicators of system stress.</li> <li>This plan would rely on a cooperative approach between DoD and GovGuam agencies to gather, share, and analyze data in a collaborative manner.</li> </ul>	<p>Requires GovGuam and appropriate agencies to monitor systems to avoid significant impacts.</p>
<b>Post-ROD Monitoring Plan To Focus on Resources</b> <p>Resource focus areas include power, potable water, wastewater, and air quality because these resources:</p> <ul style="list-style-type: none"> <li>Have the greatest potential for significant impacts;</li> <li>Are sensitive to changes in peak populations; and</li> <li>The Navy is able to adjust demands for these resources through altering construction contract awards.</li> </ul>	
<b>Post-ROD Monitoring Plan "Action Points" and "Tipping Points"</b> <ul style="list-style-type: none"> <li>The Navy has identified "action points" and "tipping points" that need to be established for resources.</li> <li>The tipping point represents an established indicator level that, if exceeded, would result in a significant impact.</li> <li>The action point would consider an appropriate reserve or buffer, agreed upon by DoD and GovGuam.</li> <li>The action point identifies an early warning level indicator associated with each resource that once reached, signals the Navy to apply appropriate adaptive management techniques to address significant impacts.</li> </ul>	<p>Requires GovGuam and appropriate agencies to monitor systems to avoid significant impacts.</p>
<b>Meeting Increased Water Demands</b> <ul style="list-style-type: none"> <li>GWA does not possess the financial resources to drill new wells in time to meet initial demands (by 2010).</li> <li>DoD could transfer excess water production capacity to GWA.</li> <li>GWA or the developer must request through the Navy Region Marianas Utilities Department the transfer of excess production capacity to the GWA.</li> <li>The DoD expects that GWA or the developer requesting additional water would install the necessary piping to make the interconnections with DoD water systems.</li> </ul>	<p>Financial burden on GWA to drill new water wells in order to meet capacity. Burden is on GWA to request the excess production capacity, as well as to install the necessary piping to make the interconnections with DoD water systems.</p>
<b>Water Resources Problems Continue with No Action Alternative</b> <ul style="list-style-type: none"> <li>The stressors on water resources under the No Action Alternative continue to be an issue.</li> <li>These threats would "continue to be monitored by federal and Guam/Tinian agencies, and appropriate regulatory action would occur in order to maximize water resources.</li> </ul>	<p>Because of on-going threats to water resources, the Preferred Alternative would not "appreciably impact the existing trend in surface water, groundwater, nearshore water or wetland health."</p> <p>Reference to monitoring and regulation by GovGuam to improve water resources.</p>

Observation/ Issue	Comment
<b>Soil Erosion Impacts</b> <ul style="list-style-type: none"> <li>Adverse trend in soil erosion is considered a significant impact under the No Action Alternative.</li> <li>Future construction projects would have less than significant impact because BMPs would be required for erosion and storm water management.</li> </ul>	<i>Because of the on-going problem with soil erosion and its impact on surface water quality, the Preferred Alternative would have no significant impact to geology and soils.</i>
<b>Additional Water Resource Management Required</b> <ul style="list-style-type: none"> <li>Additional oversight by local agencies required to ensure that BMPs are implemented and violations are reported and corrected in a timely manner.</li> <li>Additional staffing may be required for reviewing permits, inspections, collecting/testing water quality samples and reporting of violations and corrective actions.</li> <li>This may be considered an adverse secondary impact on the agencies, but no long-term secondary impact to water resource health was identified.</li> </ul>	<i>The development required to manage the increased population will create a burden on GovGuam agencies to control land use and impacts on the environment from stormwater discharges, erosion, and overall water quality.</i>
<b>Handling Increased Wastewater Flows</b> <ul style="list-style-type: none"> <li>Increased wastewater flows will result in a slight exceedance of the design capacity of the NDWWTP and an exceedance of the permit.</li> <li>GWA must reach agreement with GEPA and USEPA on the ability to process the greater estimated demand.</li> <li>Current NDWWTP would require refurbishment to attain the original design capacity in order to meet the demand.</li> <li>The slight excess demand over original design capacity would be handled by adding chemical coagulants or increasing the surface overflow rate of the clarifier to improve plant operations so that the primary clarifier would be able to treat the projected additional flow without adverse effects on the NDWWTP, with regulatory approval.</li> </ul>	<i>Significant burden to refurbish the NDWWTP to meet design capacity, as well as negotiating an agreement with GEPA and USEPA to process greater estimated demand.</i>
<b>Air Quality Issues</b> Actions GovGuam could take to reduce air emissions: <ul style="list-style-type: none"> <li>Cancel waivers allowing the GPA to use high sulphur fuels;</li> <li>Develop and implement a Traffic Management Center to monitor traffic flow and congestion;</li> <li>Add pollution control equipment at combustion turbine facility; etc.</li> </ul>	<i>Imposed burden on GovGuam to reduce air emissions.</i>
<b>Current Air Quality Data Unavailable</b> <ul style="list-style-type: none"> <li>GovGuam has not collected ambient air quality data since 1991. Therefore, no existing ambient air quality data is available to represent current air quality conditions with respect to the criteria pollutants for which the National Ambient Air Quality Standards (NAAQS) were established.</li> </ul>	<i>Calls into question the determination that there will be no impact to air quality since there is no background data to compare changes to.</i>
<b>Noise Impacts of the Preferred Alternatives</b> <ul style="list-style-type: none"> <li>Long-term operation noise impacts would be related to increased traffic on the Guam roadway network.</li> <li>Traffic noise would be most evident in northern and central Guam and around Apra Harbor.</li> </ul>	<i>Mitigation techniques not identified except for the potential for noise barrier walls along roadways.</i>
<b>Public Recreational Resources</b> <ul style="list-style-type: none"> <li>Even if the proposed relocation of the Marines to the island of Guam were not to occur, the impacts to public recreational resources would continue to be centered on the need for better facilities, more facilities, more funding, and better management.</li> </ul>	
<b>Cultural Sites</b> <ul style="list-style-type: none"> <li>Recognized cultural sites on DoD-managed lands are better protected from vandalism than sites on non-DoD managed lands because resources on DoD-managed lands are protected by cultural resource management plans and various DoD laws and regulations.</li> </ul>	
<b>Job Opportunities = Rapid Population Increase</b> <ul style="list-style-type: none"> <li>Impacts include: shortages in housing and working facilities, public service shortages, shortage of qualified workers, increases in cost of living.</li> </ul>	
<b>Positive Long-term Impact of Preferred Alternatives</b> <ul style="list-style-type: none"> <li>Over the long term, Guam's economy and quality of life should be significantly enhanced by the Preferred Alternatives.</li> </ul>	
<b>Negative Cumulative Impacts of Preferred Alternatives</b> The cumulative impacts of projects on Guam will have an additive adverse impact to five resources: <ul style="list-style-type: none"> <li>noise, land use/ownership, terrestrial biology, utilities and roadways, and socio-economics.</li> </ul>	<i>The write-up downplays the significance of these cumulative impacts. The basic conclusion is that the additive cumulative impacts are not significantly different then the cumulative impact of the military buildup.</i>
<b>Impacts to Tinian</b> <ul style="list-style-type: none"> <li>The preferred alternatives would have a significant impact on environmental justice issues. The proposed action would have disproportionate impacts to racial minorities on the island of Tinian in terms of recreational and cultural resources, socioeconomics, and terrestrial biology. People with low incomes are likely to be adversely affected by restricted access to historic and cultural sites in the currently leased areas of the island.</li> </ul>	<i>The write-up highlights the environmental justice issues on Tinian, but goes on to state that there is no additive cumulative impact from all of the projects.</i>





## Assessment

In discussing the impacts, there are very few significant adverse impacts when compared to the No Action Alternative. This is caused by the current condition of the “natural” environment and “built” environment described in the document. The Draft EIS discusses, among others, the current wastewater discharges, soil erosion issues, and air pollution that degrade the natural environment. Additionally, the Draft EIS discusses the current need under the No Action Alternative to upgrade the potable water, wastewater, power, and roadway systems. The Draft EIS states that GovGuam will incur a benefit from the DoD funding to upgrade these systems.

The mitigation measures impose significant burdens on GovGuam and its regulatory agencies to upgrade the potable water system, the wastewater treatment plant, and the power plants. In addition to the upgrades required, there will be a need to coordinate with the DoD in the monitoring of these systems to ensure that there are no impacts to service.

While minimized in the document, the short-term impacts to GovGuam will be significant. The rapid influx of population will create housing shortages that could lead to overbuilding. This could result in a drop in the housing market when construction is complete. In the short-term there will be a significant stress on public services as GovGuam tries to accommodate the rising population. Additionally, as the population rises, the cost of living will increase, making it more difficult for local members of the communities to keep pace.

There is a definite bias that the Preferred Alternative will enhance Guam's economy and quality of life.



Office of the Governor of Guam  
P.O. Box 2950  
Hagåtña, Guam 96932  
(671) 472-8931

Your questions and comments are welcome.  
Please visit the website at [www.one.guam.gov](http://www.one.guam.gov).

Definitions for terms and acronyms used in this and other related reports can be found in the *Acronym Guide and Glossary* at [www.one.guam.gov](http://www.one.guam.gov).